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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/025,784	12/26/2001	Kiwamu Tanahashi	HIRA.0020	5890

7590

05/28/2003

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EXAMINER

RICKMAN, HOLLY C

ART UNIT

PAPER NUMBER

1773

5

DATE MAILED: 05/28/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/025,784

Applicant(s)

TANAHASHI ET AL.

Examiner

Holly Rickman

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2,4.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-2 are rejected under 35 U.S.C. 102(b) as being anticipated by Honda et al. (IEEE Trans. Magn., Vol. 36, No. 5, September 2000, pp. 2399-2401).

Honda et al. disclose a magnetic recording medium having a $\text{FeTa}_8\text{C}_{12}$ soft magnetic layer disposed on a substrate. The ratio of Ta concentration to C concentration in this alloy is about 0.67. The reference teaches that a nonmagnetic CoCr intermediate layer is deposited on the soft magnetic layer followed by a perpendicular magnetic recording layer (see Section II. EXPERIMENTAL PROCEDURE and Table 1).

3. Claims 1-2 and 7 are rejected under 35 U.S.C. 102(a) as being anticipated by JP 2001-283419. — priority date overcomes?

JP 2001-283419 discloses a magnetic recording medium having a soft magnetic layer formed from $\text{Fe}_{80}\text{Ta}_9\text{C}_{11}$ disposed on a substrate and a non-magnetic intermediate layer and perpendicular magnetic layer disposed thereon (see abstract and paragraph 48 of the translation). The reference also teaches a magnetic recording apparatus for use therewith including driving

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means for the magnetic recording medium and the MR head as well as signal processing means (see paragraph 55 of the translation).

Claim Rejections - 35 USC § 102/103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 4-6 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Honda et al. (IEEE Trans. Magn., Vol. 36, No. 5, September 2000, pp. 2399-2401).

Honda et al. disclose all of the limitations of the claims, as detailed above, except for the value of $H_{c||}$. However, the reference does disclose using a $FeTa_8C_{12}$ soft magnetic layer and the present specification teaches that this particular alloy produces the claimed $H_{c||}$ values (see p. 9, Table 3).

Thus, it is the Examiner's contention that the structure taught by Honda et al. inherently satisfies the limitations of the claims directed to $H_{c||}$ by virtue of the fact that $FeTa_8C_{12}$ is used for the soft magnetic layer.

It has been held that where claimed and prior art products are identical or substantially identical, or are produced by identical or substantially identical processes, the burden of proof is shifted to applicant to show that prior art products do not necessarily or inherently possess characteristics of claimed products where the rejection is based on inherency under 35 USC

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§102 or on prima facie obviousness under 35 USC §103, jointly or alternatively. *In re Best, Bolton, and Shaw*, 195 USPQ 430. (CCPA 1977).

Claim Rejections - 35 USC § 103

6. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Honda et al. (IEEE Trans. Magn., Vol. 36, No. 5, September 2000, pp. 2399-2401) in view of Abarra et al. (US 6562489).

Honda et al. teach all of the limitations of the claims except for the presence of an amorphous or nanocrystalline layer between the substrate and the soft magnetic layer.

Abarra et al. teach the use of an amorphous NiP layer between a substrate and soft magnetic layer in a magnetic recording medium wherein the NiP promotes the formation of small grains in overlying layers (col. 11, lines 25-34).

It would have been obvious to one of ordinary skill in the art at the time of invention to add an amorphous NiP layer in between the substrate and soft magnetic underlayer taught by Honda et al. in order to promote small grain sizes in overlying layers.

7. Claims 7-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Honda et al. (IEEE Trans. Magn., Vol. 36, No. 5, September 2000, pp. 2399-2401) in view of Tanahashi et al. (US 6001447).

Honda et al. teach all of the limitations of the claims except for the exact details of the recording apparatus for use therewith.

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Tanahashi et al. teach that it is known in the art to use a magnetic recording medium in conjunction with a driving means for moving the recording medium, a magnetoresistive magnetic head, driving means for moving the magnetic head, and a signal processing unit (see abstract).

It would have been obvious to one of ordinary skill in the art at the time of invention to combine the magnetic recording medium taught by Honda et al. with the conventional magnetic recording apparatus components taught by Tanahashi et al. in order to form a functional disk drive.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Holly Rickman whose telephone number is (703) 305-2642. The examiner can normally be reached on Monday-Friday 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul J. Thibodeau can be reached on (703) 308-2367. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.



Holly Rickman
Primary Examiner
Art Unit 1773

hcr
May 16, 2003